



NOAA Teacher at Sea
Karen Meyers & Alexa Carey
Onboard NOAA Ship ALBATROSS IV
August 14 – September 1, 2006

NOAA Teacher at Sea: Karen Meyers

NOAA Ship ALBATROSS IV

Mission: Ecosystems Monitoring

Day 4: Thursday, August 17, 2006

Science and Technology Log

0200--I made it up for our watch and helped Alexa with the first plankton tow. She's already like a pro. They call the sampling device "bongos," I guess because it consists of two big stainless steel open-ended shallow cylinders which look somewhat like bongo drums to which are attached the two long, conical plankton nets. The mesh openings are 335 μm . They're towed for about 5 minutes. This time they also did two baby bongos which are for a University of Connecticut researcher who wants to look at the genetics of plankton on either side of the edge of the continental



Alexa Carey, Steve Flavin, and Jon Hare maneuver the bongos and the Video Plankton Recorder to prepare for sampling.

shelf. Jerry tells me this apparatus is considered to be superior to the old plankton nets which were towed from a bridle because it was thought the bridle scared away some plankton that were mobile enough to avoid it. Now the bridle is between the two nets which act to balance one another out and give a two-for-one sample. They use one for zooplankton and one for fish larvae. The samples are sent to Poland where they're sorted and it takes almost a year to get the data back. The bongos are attached to a big boom which is operated from the winch booth which sits above the aft deck. They're lowered over the port side and the ship is maneuvered so the wind is coming toward the port side so that the ship doesn't get blown over the nets. Steve Flavin, the deckhand who helps with the sampling, points out that in rough weather, that also means that the seas are coming over the port side as you're working. He says they've been out when the seas are breaking over the bow and over the entire superstructure onto the aft deck!

Chief Scientist Jerry Prezioso explained the sampling track to me. They have the entire sampling area from the North almost up to the Bay of Fundy south to Hatter divided into what they call “strata” which are areas of continuous depth readings. Each one is numbered and for each sampling trip (4, sometimes 5, per year), the computer randomly generates several stations within that stratum. From what he says, there has been a lot of discussion of the best way to sample to get a complete and accurate picture. The original program was called MarMap which was started in the 70’s. It used a grid pattern and sampled at the same stations every time. The criticism of that was that some areas never got sampled so significant information could have been missed.

We’ve had an extremely busy shift. We’re in an area off of Delaware Bay where “gliders” have been deployed. They are instruments that look like torpedoes and are programmed to work autonomously, moving back and forth across this area at varying depths and sending out data on salinity. John Hare is using that data to decide where we’ll do stations that will help to delimit the line between shelf water and slope water. So we’ve done a number of stations in rapid succession.

We’ve also been testing a VPR, Video Plankton Recorder, which uses a camera and rotating strobe light to take pictures of plankton. The VPR takes as many as 20 pictures per second. A computer program then selects the images that can be identified. The VPR would be used to supplement the bongos. It reveals the depth at which the particular organisms occur which can’t be determined from the bongo samples.

Personal Log – Karen Meyers

I’m relieved that my seasickness has passed. I’m still finding that life at sea is somewhat of a challenge for me. But I do like sleeping on a rocking ship. I’m surprised by how much I miss my family – it’s different only being in touch by email and not being able to hear their voices. I’m enjoying getting to know the various people on the ship – everyone is so kind and they all have such interesting backgrounds. It’s such a different life that people live at sea! I’m impressed by the dedication of the scientists – they are serious about getting every station right, in spite of having done the procedure over and over again for years. Not only the scientists, but also Steve Flavin, the deckhand who helps us get the equipment over the side and back in again, is meticulous about never missing a step.

Personal Log – Alexa Carey

Tamara, Karen and I interviewed Ensign Chad Meckley about his career path in NOAA corps. After coming out of the Merchant Marine Academy and completing BOTC training (a two-year course packed into four months), Meckley has begun working on the ALBATROSS IV to complete his sea-experience requirement. He describes his BOTC training as similar to drinking through a fire hose.

Karen and I are so lucky to come aboard to such a great crew. I finally know everyone’s names and I believe most know mine. Originally, I was quite scared of what this experience might be like because I know very little about the macro/micro organisms

which we are observing. Secondly, I've never been to the East Coast before nor flown on a plane by myself for close to 10 hours. I miss my family quite a lot; I'd never really been this far away nor for such a long period of time. Being completely out of contact for a week or more is quite difficult, but I know I'll see them soon. Fortunately, I've been adopted by a whole new family aboard ship just like at ISEF (International Science and Engineering Fair) last May.

The crew and scientists aboard are amazing! There's so much to learn, not just from the scientists, but the officers and crew. These men and women have hands-on experience with a huge variety of subjects. I'm getting to learn from top field-experts in ways textbooks cannot convey. Additionally, I'm improving my understanding of science, technology, engineering, and the Atlantic Ocean.

Everything is going smoothly with the weather, especially because it's hurricane season. There are beautiful sunsets and sunrises. It's just a great overall experience, something that no one should pass up. I get back on the 2nd of September, drive another 6 hours home, and then have one day off before school but, it's all worth it. I've been requested to interview as many of the officers, crew and scientists as possible in the allotted time. During the work shift, I found I can handle several of the procedures alone, though I'm constantly afraid of making a mistake. So far, I've heard I'm the youngest to ever sail aboard so I'm attempting to learn quickly and earn my keep.